

Amendment and Response Under 37 C.F.R. 1.116

Applicant: Willard Charles Raymond

Serial No.: 10/622,850

Filed: July 18, 2003

Docket No.: A126.116.102

Title: ADJUSTABLE WAFER ALIGNMENT ARM

REMARKS

This is responsive to the Final Office Action mailed December 7, 2006. In that Office Action, the drawings were objected to under 37 C.F.R. §1.83(a) as not showing every feature of the invention specified in the claims. The Office Action also rejected claims 1-4, 6-10, and 14-22 under 35 U.S.C. §103(a) as being unpatentable over Fuke et al., U.S. Patent No. 6,062,795 ("Fuke") in view of Nakamura, U.S. Patent No. 6,236,904 ("Nakamura") and De Anda, U.S. Patent No. 4,754,867 ("De Anda"). Claims 11-13 were rejected under 35 U.S.C. §103(a) as unpatentable over Fuke in view of Nakamura and De Anda as applied to claim 10 above, and further in view of Aoki et al., U.S. Patent No. 5,520,276 ("Aoki").

With this Response, claims 10 and 12 have been amended; claim 11 has been cancelled; and proposed drawings presented. Claims 1-4, 6-10, and 12-22 remain pending in the application and are presented for consideration and allowance.

Objection to Drawings

With this Response, a proposed drawing correction has been presented including proposed, new Figures 3A and 3B. Proposed FIG. 3A illustrates one example of a configuration including a shaft extendably connected to a support arm accordance with claim 21. Proposed FIG. 3B illustrates one configuration of a support plate pivotally mounted to a support arm in accordance with claim 22. It is respectfully submitted that FIGS. 3A and 3B are supported by the specification, for example, at page 5, lines 15-22.

It is believed that the proposed figures, if accepted, properly address the objection to the drawings. Once approved by the Examiner, the specification will be amended to properly reference FIGS. 3A and 3B.

35 U.S.C. §103 Rejections

With respect to the rejection of claim 1, the Final Office Action asserts that it would have been obvious to replace the adjustable contact elements 86a, 86A and/or 86b, 86B of Fuke with the rollers 130, 132 of De Anda. To the extent this rejection is premised upon each of the

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surfaces 86A and 86a (or 86B and 86b) being replaced by rollers (i.e., relative to the view of FIG. 4C of Fuke, a first, vertical “guide surface” is referenced by the lead line from 86A and a second, horizontal “guide surface” is referenced by the lead line from 86a), Applicant respectfully disagrees. Fuke relies upon a continuous vertical rail surface 86A and 86B to effectuate rotational alignment of a wafer ring as the rails 86A, 86B are drawn toward one another during use. In short, the wafer ring guide means 80 of Fuke must operate to satisfy two purposes: first, to assist in sliding a wafer ring from a cassette, and second, to correct for rotational misalignment or offset. The vertical surfaces 86A and 86B achieve this second parameter, replacing the vertical surface 86A (or 86B) while rollers would not. Thus, the proposed modification would render Fuke unusable for its intended purpose. Under these circumstances, a requisite suggestion to modify does not exist.

Similarly, if the rejection of claim 1 is premised upon replacing the horizontal conveying surface 86a or 86b with a series of rollers 130 of De Anda, necessary functioning of the Fuke apparatus would again be impermissibly defeated. In particular, while the rollers 130 may permit longitudinal conveyance of a wafer ring therealong, the rollers would overtly impede lateral movement of the corresponding rails 86A or 86B. In other words, Fuke requires the presence of a singular, flat face as the conveying surface 86a and 86b so that the surfaces 86a, 86b can easily slide along the wafer ring as the plates 85A, 85B (and thus the vertical guide rails 86A, 86B) are drawn toward one another in centering a wafer ring being handled. Further, Fuke is premised upon the plate 85A, 85B configuration in which the guide rails 86A, 86B, including the conveying surfaces 86a, 86b, are rigidly affixed to the plates 85A, 85B (so that use of the actuator mechanisms 87a, 87b can translate necessary movement onto the plates 85A, 85B and thus the rails 86A, 86B) in effectuating a wafer ring center operation. Replacing the horizontal conveying surfaces 86a or 86b with a plurality of rollers intended to rotate is impossible; the rollers would be affixed to the plate 85A or 85B (per the teachings of Fuke), and thus could not rotate as otherwise taught by De Anda.

In light of the above, under any interpretation of Fuke in view of De Anda, a requisite suggestion to combine does not exist. In particular, the proposed modifications would render

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Fuke unsatisfactory for its intended purpose. Under these circumstances, a *prima facie* case of obviousness does not exist. MPEP §2143.01 V.

Claims 2-4, 6-9, 18, 21, and 22 depend from claim 1, and thus, for at least the above reasons, are allowable. In addition, with respect to claim 8, it is respectfully asserted that in light of the Office Action's apparent interpretation of Fuke as including the vertical guide rail 86A (or 86B) as a "first contact element" and the horizontal conveying surface 86a (or 86b) as being the "second contact element," a requisite suggestion to modify each of the components 86A, 86a or 86B, 86b to include a roller, as otherwise set forth in claim 8, does not exist. Once again, as described above, necessary functioning of the Fuke apparatus would be defeated were the guide rails 86A or 86B replaced with a roller. Thus, it is respectfully submitted that claim 8 recites additionally allowable subject matter. Additionally, it is respectfully asserted that in the absence of any prior art teaching, the rejections of claims 21 and 22 are unsupported and should be withdrawn.

Claim 10 has been amended to incorporate the limitations of now-cancelled claim 11, and recites a method of handling a film frame including moving contact elements relative to a respective support arm by determining a diameter of the film frame and horizontally positioning the contact elements based upon determined diameter. In rejecting claim 11, the Final Office Action relies upon a modification of Fuke in view of Aoki. It is respectfully submitted that a requisite motivation to implement this modification does not exist. In particular, Fuke has no need to account for, and adjust to, film frame diameter. Rather, the guide rails 86A, 86B are grossly spaced from one another (via the plates 85A, 85B) prior to placement of a wafer ring upon the conveying surfaces 86a, 86b. Subsequently, the plates 85A, 85B, and thus the guide rails 86A, 86B, are driven toward one another to contact and "rotate" a wafer frame placed upon the conveying surfaces 86a, 86b. That is to say, with the methodology of Fuke, even if a diameter of the wafer ring were determined, Fuke assumes that the wafer ring is rotationally displaced, such that the measured diameter has no bearing on subsequent operation. More particularly, regardless of any diameter, the methodology of Fuke assumes that the wafer ring has a relatively flat or linear side surface (FIG. 1) against which the flat guide rails 86A, 86B will

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bear and subsequently center/rotate. Thus, because Fuke has no need for determining a diameter of the film frame and horizontally positioning contact elements based upon the determined diameter, a requisite suggestion to modify the method of Fuke as otherwise set forth in the Office Action. As such, it is respectfully submitted that amended claim 1 is allowable over the cited art.

Notably, the Office Action at page 5, in rejecting claims 10, 14-17, and 19-20, states that "the modified apparatus of Fuke et al. would obviously be able to perform the recited method steps without any further modifications." It is respectfully submitted that this is an incorrect application of §103. Relative to the method limitations of claims 10, 12-17, 19, and 20, it does not matter whether the modified apparatus of Fuke "would" be able to perform the recited method steps; rather, the question is whether the combined references actually teach the recited method steps. It is respectfully submitted that the cited references do not teach each and every step, nor does a suggestion exist to combine the teachings in a manner satisfying the limitations of amended claim 10. In light of the above, it is respectfully submitted that claim 10 is allowable over the cited art. Claims 12-17, 19, and 20 depend from amended claim 10, and thus are also allowable.

CONCLUSION

In view of the above, Applicant respectfully submits that pending claims 1-4, 6-10, and 12-22 recite patentable subject matter, are in form for allowance, and are not taught or suggested by the cited references. Therefore, reconsideration and withdrawal of the rejections and allowance of claims 1-4, 6-10, and 12-22 is respectfully requested.

No fees are required under 37 C.F.R. 1.16(b)(c). However, if such fees are required, the Patent Office is hereby authorized to charge Deposit Account No. 50-0471.

The Examiner is invited to telephone the Applicant's representative at the below-listed number to facilitate prosecution of this application.

Any inquiry regarding this Amendment and Response should be directed to Timothy A. Czaja at Telephone No. (612) 573-2004, Facsimile No. (612) 573-2005. In addition, all correspondence should continue to be directed to the following address:

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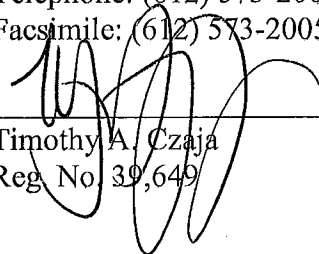
Respectfully submitted,

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